isocyanate monomers used to prepare the polyfunctional isocyanate(s) being identical to or different from the isocyanate(s) or the mixture of isocyanates used to prepare the allophanate(s).

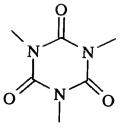
25. A process for preparing a tricondensate polyfunctional isocyanate composition, comprising at least one isocyanurate and/or biuret group, which comprises the step of adding to a tricondensate polyfunctional isocyanate, or to a mixture of different tricondensate polyfunctional isocyanates, obtained by (cyclo)trimerization of one or more identical or different isocyanate monomers and optionally of another monomer, an allophanate of one or more identical or different isocyanates, or a mixture of different allophanates, the isocyanates or mixtures of isocyanate monomers used to prepare the polyfunctional isocyanate(s) being identical to or different from the isocyanate(s) or the mixture of isocyanates used to prepare the allophanate(s).

26. The process of claim 24 or claim 25, wherein the tricondensate polyfunctional isocyanates has the following general formula:

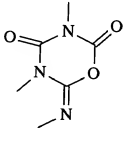
(I)

in which A represents:

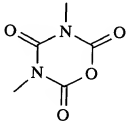
- an isocyanurate group of formula:



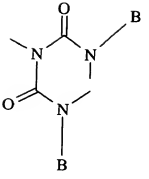
- an imino-oxadiazine-dione of the following formula:



- an oxadiazine-trione of the following formula:

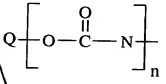


- a biuret group of formula:



B being H or a hydrocarbon-based group containing 1 to 20 carbon atoms, carbon and hydrogen as well as, optionally, other atoms (O, S, Si, etc.); or

- a group of formula:



and in which R_1, R_2 and R_3, which may be identical or different, represent a hydrocarbon-based group, comprising a true or derived isocyanate function,

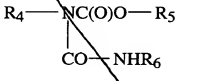
Q is a hydrocarbon-based group, as defined for R_1 to R_3,

m is an integer from 0 to 2,

n is the integer 3 or 4.

27. The process of claim 24 or claim 25, wherein the tricondensate polyfunctional isocyanate composition comprises at least one true isocyanurate polyisocyanate.

28. The process of claim 24 or claim 25, wherein the allophanates or of the following formula II:



(II)

in which:

- R_4 and R_6, which may be identical or different, represent a hydrocarbon-based group comprising a true or derived isocyanate function,
- R_5 represents an alkyl group.

29. The process of claim 24 or claim 25, wherein a mixture of allophanates, is added to the tricondensate polyfunctional isocyanates.

30. The process of claim 24 or claim 25, wherein the mixture of allophanates comprises mono-, bis- and trisallophanates, in an amount of at least 2/3, by weight relative to the total weight of the allophanate composition after removal of the unreacted monomers.

31. The process of claim 24 or claim 25, wherein the mixture of allophanates comprises mono-, bis- and trisallophanates, in an amount of at least 75%, by weight relative to the total weight of the allophanate composition after removal of the unreacted monomers.

32. The process of claim 24 or claim 25, wherein the mixture of allophanates comprises mono-, bis- and tris-allophanates, in an amount of at least 90%, by weight relative to the total weight of the allophanate composition after removal of the unreacted monomers.

33. The process of claim 24 or claim 25, wherein the amount of bis-allophanate represents up to 10% of the total weight of the allophanate composition.

34. The process according to claim 24 or claim 25, wherein the amount of tris-allophanates is less than or equal to 30%, relative to the total weight of the composition.

35. The process according to claim 24 or claim 25, wherein the amount of tris-allophanates is less than or equal to 20%, relative to the total weight of the composition.

36. The process according to claim 24 or claim 25, wherein the amount of tris-allophanates is less than or equal to 15%, relative to the total weight of the composition.

37. The process of claim 24 or claim 25, wherein the mixture of allophanates comprises mono-, bis- and tris-allophanates and the ratio bis-allophanate functions + tris-allophanate functions/mono-allophanate functions is equal to or greater than 0.1.

38. The process of claim 24 or claim 25, wherein the mixture of allophanates comprises mono-, bis- and tris-allophanates and the ratio bis-allophanate functions + tris-allophanate functions/mono-allophanate functions is equal to or greater than 0.3.

39. The process of claim 24 or claim 25, wherein the mixture of allophanates comprises mono-, bis- and tris-allophanates and the ratio bis-allophanate functions + tris-allophanate functions/mono-allophanate functions is equal to or greater than 0.5.

40. A process for preparing a low-viscosity tricondensate polyfunctional isocyanate composition, comprising the following steps a) and b) in any order:

a) (cyclo)condensating, in the presence of a catalyst, of one or more identical or different first isocyanate monomer(s) until the desired degree of conversion is obtained;

b) reacting one or more second isocyanate monomer(s) which are identical to or different from one another and identical to or different from the first isocyanate monomer(s), with an alcohol to form a carbamate, the reaction optionally being catalyzed, and simultaneous or subsequent reaction of the carbamate with one or more isocyanate

monomer(s) which are identical to or different from the previous monomers, to give an allophanate or mixture of allophanates;

and steps c) and d) in any order:

c) mixing the reaction product from step a) with all or some of the reaction product from step b) and optionally

d) removing the isocyanate monomers.

41. The process of claim 24 or 40, wherein the isocyanate(s) used for the (cyclo)condensation reaction is (are) identical to the isocyanate(s) used for the allophanatation reaction.

42. The process of claim 24 or 40, wherein the isocyanate(s) used for the allophanatation reaction and the isocyanate(s) used for the cyclotrimerization reaction satisfy one, two or three of the following conditions:

- at least one or at least two, of the NCO functions are linked to a hydrocarbon-based skeleton via a saturated (sp^3) carbon;
- at least one or at least two, of said saturated (sp^3) carbons bears at least one, respectively two, hydrogen(s)
- all the intermediate carbons via which the isocyanate functions are linked to the hydrocarbon-based skeleton are saturated (sp^3) carbons which partially, or totally, bear one hydrogen or two hydrogens.

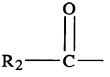
43. The process of claim 40, wherein the alcohol is selected from the group consisting of:

- aliphatic monoalcohols containing a C_1-C_{10} linear chain;

- aliphatic monoalcohols containing a C_3-c_{12} branch chain comprising not more than four secondary carbon atoms;

- diols containing a linear C_2-C_{40} or branched C_3-C_{40} chain;

of formula R- $[O\text{-}CH(R_1)\text{-}CH_2]_n$-OH, in which R_1 represents H or a C_1-C_8 alkyl group, or polyether of formula $-CH_2OR_{10}$, R_{10} representing a polyoxyalkylene chain, n is an integer from 1 to 50, and R is a linear or branched C_1-C_{20} alkyl group, or R is a group



with R_2 being a linear or branched C_1-C_{20} alkyl group; and

- silanols.

44. The process of claim 40, wherein the NCO/OH ratio of respectively the isocyanate and the alcohol in step b) is greater than 4.

45. The process of claim 40, wherein at least about 25% by weight of the product from step b) is mixed with product from step a).

Sub CS

46. A reduced-viscosity tricondensate polyfunctional isocyanate composition comprising at least one true tricondensate polyfunctional isocyanate and at least one primary allophanate, said composition comprising less than 10% of tricondensate allophanates relative to the total weight of the composition.

A' cont.

47. A reduced-viscosity tricondensate polyfunctional isocyanate composition comprising at least one true tricondensate polyfunctional isocyanate and at least one primary allophanate, said composition comprising less than 8% of tricondensate allophanates relative to the total weight of the composition.

48. A reduced-viscosity tricondensate polyfunctional isocyanate composition comprising at least one true tricondensate polyfunctional isocyanate and at least one primary allophanate, said composition comprising less than 5% of tricondensate allophanates relative to the total weight of the composition.

49. A reduced-viscosity tricondensate polyfunctional isocyanate composition comprising at least one true tricondensate polyfunctional isocyanate and at least one primary allophanate, said composition comprising less than 4% of tricondensate allophanates relative to the total weight of the composition.

50. A reduced-viscosity tricondensate polyfunctional isocyanate composition comprising at least one true tricondensate polyfunctional isocyanate and at least one

primary allophanate, said composition comprising less than 3% of tricondensate allophanates relative to the total weight of the composition.

51. A reduced-viscosity tricondensate polyfunctional isocyanate composition comprising at least one true tricondensate polyfunctional isocyanate and at least one primary allophanate, said composition comprising less than 2% of tricondensate allophanates relative to the total weight of the composition.

52. A reduced-viscosity tricondensate polyfunctional isocyanate composition comprising at least one true tricondensate polyfunctional isocyanate and at least one primary allophanate, said composition comprising less than 1% of tricondensate allophanates relative to the total weight of the composition.

53. A reduced-viscosity tricondensate polyfunctional isocyanate composition, comprising at least one true tricondensate polyfunctional isocyanate and at least one allophanate, said composition satisfying at least one, advantageously two, of the following conditions:

- a G ratio defined by:

True tricondensate polyisocyanates, obtained from the condensation of three identical or different isocyanate molecules not modified with carbamate or allophanate

G= _____

Sum of the polyisocyanate molecules bearing at least one tricondensate function obtained from the condensation of three identical or different isocyanate molecules greater than 0.3,

- an allophanate/allophanate + true trimer weight ratio of between 2.5% and 99%,
- the tricondensates are obtained from a tricondensation reaction for which the degree of conversion of the identical or different isocyanate monomer(s) into tricondensate polyfunctional polyisocyanates contained in the composition is greater than 8%,
- at least 1% and not more than 99%, of biuret is present, these amounts being given on a weight basis.

54. The tricondensate polyfunctional isocynanate composition of claims 46 or 53, wherein the mixture of allophanates comprises mono-, bis- and tris-allophanates in an amount of at least 2/3, by weight relative to the total weight of the allophanate composition after removal of the unreacted monomers.

55. The tricondensate polyfunctional isocynanate composition of claims 46 or 53, comprising an amount of bis-allophanate representing up to 10%, of the total weight of the allophanate composition.